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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,660	11/29/2001	Won Sik Kim	K-0347	2627

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EXAMINER

LAZARO, DAVID R

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,660

Applicant(s)

KIM, WON SIK

Examiner

David Lazaro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-21 are pending in this Office Action.

Priority

2. This application claims priority of REPUBLIC OF KOREA 2000-71610 (11/29/2000).
3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

4. Claim 16 is objected to because of the following informalities: In line 5, "that" should be "than". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 8, 14 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, all these claims involve issuing a ping according to a

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received IP address allocation request of a client. Part of the invention is to use the ping to determine an available IP address. The IP address to be issued a ping is selected from a free IP address table (Page 10 of specification, also see claim 10). Of concern, in terms of enablement, is the claimed subject matter of receiving a reply to this ping from the same client that issued the IP address allocation request. The disclosure of the invention does not describe how a client requesting an IP address to be allocated is capable of responding to a ping issued to an IP address. If the client is requesting allocation of an IP address, how can the client have an IP address such that it can respond to a ping? For these reasons of uncertainty of enablement, the examiner contends that one skilled in the art would not know how to make or use the invention. Therefore the claims fail to comply with the enablement requirement.

7. Note: Due to this rejection under 35 U.S.C. 112, first paragraph, the examiner will interpret the limitations regarding 'receiving a reply from the requesting client' as 'receiving no reply to the ping'.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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9. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by “Join server technical help: Chapter 5 Server/Security Parameter”, technical manual from UC Davis Information Resources Unix Help website, November 11, 1996 (Join).

10. With respect to Claim 1, Join teaches A Dynamic Host Configuration Protocol (DHCP) server (Page 1), comprising: an Internet Control Message Protocol (ICMP) module that issues an ICMP ping packet, based on an IP address allocation request from a DHCP client (Page 8 ‘Ping BOOTP Clients’), and registers relevant event information in a DHCP ping entry (Page 8 ‘Ping BOOTP Clients’ and ‘Ping Timeout’); a determining module that determines whether a reply to the ICMP ping packet came from the DHCP client requesting the IP address allocation or another DHCP client; and a first operation module that conducts a DHCP procedure using the registered relevant event information, if the reply is from the DHCP client requesting the IP address allocation, and changes the registered relevant event information through the ICMP module and issues a new ICMP ping packet, if the reply is not from the DHCP client (Page 8 ‘Ping BOOTP Clients’ and ‘Ping Timeout’).

11. With respect to Claim 2, Join teaches all the limitations of Claim 1 and further teaches the first operation module erases the registered relevant event information from the DHCP ping entry during the DHCP procedure (Page 8 ‘Ping BOOTP Clients’ and ‘Ping Timeout’).

12. With respect to Claim 3, Join teaches all the limitations of Claim 1 and further teaches the DHCP procedure is a process for allocating a requested IP address to the

DCHP client requesting the IP address (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

13. With respect to Claim 4, Join teaches all the limitations of Claim 1 and further teaches a verifying module that conducts a system timer loop, the system timer loop is used to periodically verify the relevant event information registered in the DHCP ping entry; a comparing module that compares an event occurrence time and an out time, which is set in the relevant event information registered in the DHCP ping entry; and a second operation module that conducts the DHCP procedure using the registered relevant event information and erases the relevant event information from the DHCP ping entry, if the event occurrence time is older than the out time set in the corresponding DHCP ping entry (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

14. With respect to Claim 5, Join teaches all the limitations of Claim 4 and further teaches the DHCP procedure is a process for allocating a requested IP address to the DCHP client requesting the IP address (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

15. With respect to Claim 6, Join teaches all the limitations of Claim 4 and further teaches the second operation module erases the registered relevant event information from the DHCP ping entry during the DHCP procedure (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

16. With respect to Claim 7, Join teaches all the limitations of Claim 1 and further teaches a system clock device that provides timing information to the DHCP server (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

17. With respect to Claim 8, Join teaches a method for allocating an Internet Protocol (IP) address by a Dynamic Host Configuration Protocol (DHCP) server (Page 1), comprising: issuing an Internet Control Message Protocol (ICMP) ping packet and registering relevant event information in a DHCP ping entry when an IP address allocation request is received from a DHCP client (Page 8 'Ping BOOTP Clients' and 'Ping Timeout'); conducting a DHCP procedure using the registered relevant event information and erasing the registered relevant event information from the DHCP ping entry, when a reply to the ICMP ping packet is received from the DHCP client requesting the IP address allocation (Page 8 'Ping BOOTP Clients' and 'Ping Timeout'); and changing the relevant event information registered in the DHCP ping entry and issuing a new ICMP ping packet, when the reply to the ICMP ping packet is from another DHCP client (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').
18. With respect to Claim 9, Join teaches all the limitations of Claim 8 and further teaches the relevant information includes the IP address, a Media Access Control (MAC) address of the DHCP client, and an event occurrence time (Page 8 'Ping BOOTP Clients' and 'Ping Timeout', Page 6 'Assign name by hardware address', and Page 9 'Restrict to Known MAC address' and 'Use MAC addr as client ID').
19. With respect to Claim 10, Join teaches all the limitations of Claim 8 and further teaches discarding the IP address allocation request, received from the DHCP client, when there is no new IP address available for allocation in a DHCP free IP address table (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

20. With respect to Claim 11, Join teaches all the limitations of Claim 8 and further teaches operating a system timer loop used to periodically verify the DHCP ping entry; comparing an event occurrence time registered in the DHCP ping entry and a set DHCP ping out time; and conducting the DHCP procedure using the registered relevant information and erasing the relevant event information from the DHCP ping entry if the registered event occurrence time is older than the set DHCP ping packet out time (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

21. With respect to Claim 12, Join teaches all the limitations of Claim 11 and further teaches the relevant information includes the IP address, a Media Access Control (MAC) address of the DHCP client, and an event occurrence time (Page 8 'Ping BOOTP Clients' and 'Ping Timeout', Page 6 'Assign name by hardware address', and Page 9 'Restrict to Known MAC address' and 'Use MAC addr as client ID').

22. With respect to Claim 13, Join teaches all the limitations of Claim 11 and further teaches the system timer loop is operated with a system clock device provided in the DHCP server (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

23. With respect to Claim 14, Join teaches a server (Page 1), comprising: an Internet Control Message Protocol (ICMP) module that issues a ping packet according to a received Internet Protocol (IP) address allocation request (Page 8 'Ping BOOTP Clients' and 'Ping Timeout'); a determining module that determines whether a reply to the issued ping packet came from a first client that requested the IP address allocation or from a second client; and a first operation module that allocates an IP address to the

first client if the first client is determined to have sent the reply (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

24. With respect to Claim 15, Join teaches all the limitations of Claim 14 and further teaches the first operation module discards the IP address allocation request if the second client is determined to have sent the reply (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

25. With respect to Claim 16, Join teaches all the limitations of Claim 14 and further teaches a comparing module that compares an event occurrence time stored by the ICMP module in a ping entry with an out time set in the ping packet (Page 8 'Ping BOOTP Clients' and 'Ping Timeout'); and a second operation module that erases the ping entry if the event occurrence time is older than the out time (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

26. With respect to Claim 17, Join teaches all the limitations of Claim 14 and further teaches a verifying module that repeatedly induces the server to determine whether the reply has been received (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

27. With respect to Claim 18, Join teaches a method of allocating an Internet Protocol (IP) address with a server, comprising: issuing a ping packet according to a received IP address allocation request (Page 8 'Ping BOOTP Clients' and 'Ping Timeout'); determining whether a reply to the issued ping packet came from a first client that requested the IP address allocation or from a second client (Page 8 'Ping BOOTP Clients' and 'Ping Timeout'); and allocating the IP address to the first client, if the first

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client is determined to have sent the reply (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

28. With respect to Claim 19, Join teaches all the limitations of Claim 18 and further teaches discarding the IP address allocation request if the second client is determined to have sent the reply (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

29. With respect to Claim 20, Join teaches all the limitations of Claim 18 and further teaches comparing an event occurrence time stored in a ping entry with an out time set in the ping packet (Page 8 'Ping BOOTP Clients' and 'Ping Timeout'); and erasing the ping entry if the event occurrence time is older than the out time (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

30. With respect to Claim 21, Join teaches all the limitations of Claim 18 and further teaches repeatedly determining whether the reply has been received (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

32. U.S. Patent 5,724,510 by Arndt et al. "Method of Configuring a Valid IP Address and Detecting Duplicate IP Addresses in a Local Area Network" March 3, 1998.

Discloses the use of broadcasting messages, such as ARP messages, to elicit responses from any possible node. Duplicate IP addresses can be discovered in this manner and can be selectively diagnosed and corrected.

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33. U.S. Patent 5,835,720 by Nelson et al. "IP Discovery Apparatus and Method" November 10, 1998. Discloses the use of pings in order to determine network topology.

34. U.S. Patent 6,115,545 by Mellquist "Automatic Internet Protocol (IP) Address Allocation and Assignment" September 5, 2000. Discloses the use of a ping to determine if an address is in use before allocating the address to a requesting device.

35. U.S. Patent 6,810,420 by Buse et al. "Allocation of IP Address by Proxy to Device in a Local Area Network" October 26, 2004. Discloses a reiterative test for address conflict by using an ARP or ICMP echo request.

36. U.S. Patent 6,826,611 by Arndt "Apparatus and method for automatically obtaining a valid IP configuration in a local area network" November 30, 2004. Discloses the use of a ping in determining a valid IP configuration of a network with respect to a valid subnet.

37. "DHCP: Detecting and Flagging Duplicate IP Addresses" from support.microsoft.com, Article ID 161430. Last review August 8, 2001. Discloses the use of pings in detecting and working around duplicate IP addresses. The examiner notes the functionality was implemented in the Windows NT 4.0 Service Pack 2, which was available by late 1996.

38. Thurrott, Paul, "Windows NT 4.0 Service Pack 2 available" published by www.windowsitpro.com, December 19, 1996. Article #16602. Establishes the Windows NT 4.0 Service Pack 2, which includes a ping functionality used in conjunction with DHCP for detecting address conflicts, was available as of the publishing date.


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39. Dulaney et al. "Integrating Unix and NT Technology", the chapter 'Dynamic Host Configuration Protocol', 29th Street Press, June 1999. Excerpt from the book available from www.windowsitpro.com. Discloses the use of ping for conflict detection in allocation of addresses by DHCP.

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 571-272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David Lazaro
February 17, 2005


HOSAIN ALAM
SUPERVISORY PATENT EXAMINER